

embodiment. In this case, when a request to call the mobile station exists, the mobile station sends the called radio state report having the format shown in FIG. 11. When the base station receives this called radio state report, the reception level measuring unit 14 measures the reception level of the called radio state report. The up initial transmission power value determining unit 21 compares the measured reception level with the threshold value which is used to determine the optimum up initial transmission power value, and determines the initial transmission power value 22 from the level difference between the measured reception level and the threshold value. The initial transmission power value 22 is notified to the mobile station when making the radio channel designation. The operation carried out thereafter is the same as that at the time of making the call.

In the first embodiment, the base station receives the report of the down line reception level from the mobile station and determines the down initial transmission power value. However, when the mobile station measures the down line reception level, it is possible to also obtain the down initial transmission power value and report only this down initial transmission power value to the base station. In this case, the base station can determine the down transmission power based on the down initial transmission power value. In addition, it is also possible to report to the base station the level difference information related to the level difference between the reception level and the threshold value. In this case, the base station can determine the down transmission power based on the level difference information.

In the second embodiment, the base station obtains the level difference value from the up line reception level and notifies this level difference value to the mobile station. However, it is possible to instead notify to the mobile station an absolute value of the up line reception level. In this case, the mobile station can determine the up initial transmission power value based on this absolute value.

In the third and fourth embodiments, the base station determines the up initial transmission power value from the up line reception level, and this value is notified to the mobile station. However, it is possible to notify instead to the mobile station an absolute value of the up line reception level. In this case, the mobile station can determine the up initial transmission power value based on this absolute value.

Further, the present invention is not limited to these embodiments, but various variations and modifications may be made without departing from the scope of the present invention.

What is claimed is:

1. A method of determining an initial transmission power in a mobile communication system having a base station and at least one mobile station, a control channel leading from the base station to the mobile station and a talk channel leading from the base station to the mobile station, said method comprising the steps of:

- (a) measuring, at the mobile station, a reception level of said control channel leading from the base station to the mobile station;
- (b) obtaining a comparison result, at the mobile station, by comparing the measured reception level with a threshold value which is used to determine an initial transmission power value of said talk channel;
- (c) determining, at the mobile station, the initial transmission power value of said talk channel based on the comparison result, and reporting the initial transmission power value of said talk channel to the base station; and

(d) setting, at the base station, the initial transmission power value of said talk channel, reported from the mobile station.

2. A method of determining an initial transmission power in a mobile communication system having a base station and at least one mobile station, a control channel leading from the mobile station to the base station and a talk channel leading from the mobile station to the base station, said method comprising the steps of:

- (a) reporting from the mobile station a transmission power value of said control channel to the base station;
- (b) measuring, at the base station, a reception level of said control channel leading from the mobile station to the base station in response to the report made in said step (a);
- (c) obtaining a comparison result, at the base station, by comparing the measured reception level with a threshold value which is used to determine an initial transmission power value of said talk channel;
- (d) notifying from the base station to the mobile station, as the initial transmission power value of said talk channel, a value which is obtained by correcting a transmission power value of said control channel reported from the mobile station by the comparison result; and
- (e) setting, at the mobile station, the value notified by said step (d) as the initial transmission power value of said talk channel.

3. A method of determining an initial transmission power in a mobile communication system having a base station and at least one mobile station, a control channel leading from the mobile station to the base station and a talk channel leading from the mobile station to the base station, said method comprising the steps of:

- (a) reporting from the mobile station to the base station, information about a mobile station type and a control value which is used for an autonomous transmission power control of a transmission power of said control channel;
- (b) measuring, at the base station, a reception level of said control channel and obtaining a comparison result by comparing the measured reception level with a threshold value which is used to determine an initial transmission power value of said talk channel;
- (c) notifying from the base station to the mobile station, as the initial transmission power value of said talk channel dependent on the mobile station type, a value which is obtained by correcting by the comparison result a transmission power value which is determined by said information about the mobile station type and the control value which are reported in said step (a); and
- (d) setting, at the mobile station, the value notified by said step (c) as the initial transmission power value of said talk channel.

4. A method according to claim 3, wherein said information is indicative of a maximum transmission power at which the mobile station can transmit signals.

5. A method of determining an initial transmission power in a mobile communication system having a base station and at least one mobile station, a control channel leading from the mobile station to the base station and a talk channel leading from the mobile station to the base station, said method comprising the steps of:

- (a) measuring, at the base station, a reception level of said control channel leading from the mobile station to the